CONFIDENTIAL SITE SUMMARY AND RECOMMENDATIONS

The LH Caribe Inc. site is a former manufacturing facility of approximately 1.5 acres in an industrial park setting, with a private residential area to the north. The building lies on the east side of the site, with a paved parking lot on the west side. Topography of the site slopes south and east. The drainage area is limited to the site; curbing along the employee parking lot directs runoff to the street and associated storm drains. No schools or daycare centers are located within 200 feet of the site. The facility is currently owned by Becton Dickinson (a.k.a., BD Diagnostics, BD Biosciences), which operates out of multiple adjacent buildings within the industrial park.

The facility, designated as Building No. T-1254-0-79 was built by PRIDCO in 1979. Toro Irrigation Inc., the initially-planned tenant, never occupied the premises. LH Caribe Inc., a.k.a., LH Research PR, Inc., occupied the facility between 1980 and 1989; they manufactured power supplies and used the solvents isopropyl alcohol and TCA. During operations, the company generated approximately 55 gallons of spent solvent every three months, operating as a RCRA SQG under permit number PRD104097852. On October 4, 1989, the PREQB inspected the facilities and found eleven violations of regulations, which the company failed to correct. The facility had three cesspools and a septic tank, as well as a septic tank with three injection wells; these units were closed in 1991. BD, the current owner/operator purchased the property in February 2007 and began biochemical product manufacturing later that year. BD is an RCRA SQG (Permit No.: PRR000019265) that generates the waste chemicals formaldehyde, methanol, and ethanol.

In 2006, WESTON® and U.S. EPA personnel mobilized to the Central PRASA Laboratory to review quarterly public well system organic analytical data for January 2002 through September 2006. WESTON and EPA reviewed the quarterly monitoring data for PRASA-operated wells and filtration plants throughout Puerto Rico and identified public wells in Cayey exhibiting VOC contamination. Analytical results for groundwater samples collected by WESTON in December 2008 confirmed the presence of TCE at levels exceeding the HRS Level I benchmark and PCE above detection limits in Cayey drinking water wells. Analytical data of groundwater samples from UPR Cayey Wells 1 and 2, located on the UPR-Cayey campus less than 1.5 miles southwest of the site, and in the inactive PRASA Bungalo/Montellano well, located less than one mile southwest of the site, indicated the presence of TCE. TCE was also detected at 0.64 µg/L in post-treatment samples collected from the UPR-Cayey water system, after treatment with chlorine and activated carbon.

Therefore, pre-CERCLIS screening activities for the site were conducted under EPA's Cayey Site Discovery Initiative starting in 2008. As part of the pre-CERCLIS screening, WESTON conducted site visits of the former LH Caribe Inc. building on November 19, 2008 and August 31, 2009; the building exterior was observed to be clean and well maintained. However, the site was recommended for further assessment under CERCLA based on the site's historical generation of solvent waste, the presence of abandoned cesspools, septic tank, and septic injection system, as well as the site's proximity to contaminated wells.

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On March 18, 2011, WESTON conducted an on-site reconnaissance of the site. The reconnaissance included an interview with the current plant manager and a site walk. WESTON personnel detailed the site features including possible sample locations. On May 16, 2011, WESTON personnel collected surface soil and subsurface soil samples from seven boreholes advanced throughout site using Geoprobe® direct-push technology and a groundwater sample from the nearby water supply well. All samples were collected as part of the PA/SI evaluation of the site and were analyzed for TCL VOCs through the EPA CLP. Analytical results indicate an on-site source of contaminated soil: samples 1313-S03 and 1313-SS03A, collected from the northeast portion of the site, indicated the presence of 1,1-DCE and 1,1-DCA. VOCs were not detected in the groundwater samples collected from the nearby water supply well. Approximately 4,200 people obtain drinking water from groundwater sources within 4 miles of the site.

An HRS QuickScore (Version 3.0.3) analysis of the LH Caribe Inc. site was conducted on the basis of a potential release to groundwater. Analytical results of on-site soil samples collected in May 2011 indicate the presence of a contaminated soil source. However, proposed direct-push groundwater samples could not be collected and analytical results of the groundwater samples collected from nearby water supply well indicates non-detect values for all VOC parameters. Therefore, the likelihood of establishing site-attributable actual contamination of drinking water wells within 4 miles of the site is low. The Quickscore analysis resulted in a site score of 2.20, which is below the 28.5 minimum score required for placement on the NPL.

Based on an evaluation of the above conditions, a recommendation of **NO FURTHER REMEDIAL ACTION PLANNED (NFRAP)** is given to the LH Caribe Inc. site.

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******PRE-DECISIONAL DOCUMENT ******
****** SUMMARY SCORESHEET ******
****** FOR COMPUTING PROJECTED HRS SCORE ******

****** Do Not Cite or Quote ******

Site Name: LH Caribe

Region: Region 2

Scenario Name: Actual Score

City, County, State: Cayey, Puerto Rico

Evaluator: Michele Capriglione

EPA ID#: PRD104097852

Date: 09/09/2011

Lat/Long: 18:7:41,-66:8:19

Congressional District:

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This Scoresheet is for: Combined PA/SI

Scenario Name: Actual Score

Description: The actual score is based on analytical results of samples collected in May 2011.

	S pathway	S^2 pathway
Ground Water Migration Pathway Score (S_{gw})	1.18	1.39
Surface Water Migration Pathway Score (S_{sw})	0.99	0.98
Soil Exposure Pathway Score (S_s)	0.2	0.04
Air Migration Score (S_a)	4.12	16.97
$S^2_{gw} + S^2_{sw} + S^2_s + S^2_a$		19.39
$(S^2_{gw} + S^2_{sw} + S^2_s + S^2_a)/4$		4.85
$/ (S^2_{gw} + S^2_{sw} + S^2_s + S^2_a)/4$		2.2

Pathways not assigned a score (explain):

TABLE 3-1 --GROUND WATER MIGRATION PATHWAY SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Aquifer Evaluated: Volcanic Bedrock Aquifer			
Likelihood of Release to an Aquifer:			
1. Observed Release	550	0.0	
2. Potential to Release:			
2a. Containment	10	10.0	
2b. Net Precipitation	10	10.0	
2c. Depth to Aquifer	5	3.0	
2d. Travel Time	35	1.0	
2e. Potential to Release [lines 2a(2b + 2c + 2d)]	500	140.0	
3. Likelihood of Release (higher of lines 1 and 2e)	550		140.0
Waste Characteristics:			
4. Toxicity/Mobility	(a)	100.0	
5. Hazardous Waste Quantity	(a)	10.0	
6. Waste Characteristics	100		6.0
Targets:			
7. Nearest Well	(b)	5.0	
8. Population:			
8a. Level I Concentrations	(b)	0.0	
8b. Level II Concentrations	(b)	0.0	
8c. Potential Contamination	(b)	100.7	
8d. Population (lines 8a + 8b + 8c)	(b)	100.7	
9. Resources	5	5.0	
10. Wellhead Protection Area	20	5.0	
11. Targets (lines 7 + 8d + 9 + 10)	(b)		115.7
Ground Water Migration Score for an Aquifer:			
12. Aquifer Score [(lines 3 x 6 x 11)/82,5000][c]	100		1.18
Ground Water Migration Pathway Score:			
13. Pathway Score (S_{gw}), (highest value from line 12 for all aquifers evaluated)[c]	100		1.18

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[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] Do not round to nearest integer

TABLE 4-1 --SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Watershed Evaluated: Rio de la Plata			
Drinking Water Threat			
Likelihood of Release:			
1. Observed Release	550	0.0	
2. Potential to Release by Overland Flow:			
2a. Containment	10	10.0	
2b. Runoff	10	1.0	
2c. Distance to Surface Water	5	9.0	
2d. Potential to Release by Overland Flow [lines 2a(2b + 2c)]	35	100.0	
3.Potential to Release by Flood:			
3a. Containment (Flood)	10	10.0	
3b. Flood Frequency	50	0.0	
3c. Potential to Release by Flood (lines 3a x 3b)	500	0.0	
4. Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	100.0	
5. Likelihood of Release (higher of lines 1 and 4)	550		100.0
Waste Characteristics:			
6. Toxicity/Persistence	(a)	40.0	
7. Hazardous Waste Quantity	(a)	10.0	
8. Waste Characteristics	100		3.0
Targets:			
9. Nearest Intake	50	2.0	
10. Population:			
10a. Level I Concentrations	(b)	0.0	
10b. Level II Concentrations	(b)	0.0	
10c. Potential Contamination	(b)	163.3	
10d. Population (lines 10a + 10b + 10c)	(b)	163.3	
11. Resources	5	5.0	
12. Targets (lines 9 + 10d + 11)	(b)		170.3
Drinking Water Threat Score:			
13. Drinking Water Threat Score [(lines 5x8x12)/82,500, subject to a max of 100]	100		0.62
Human Food Chain Threat			
Likelihood of Release:			
14. Likelihood of Release (same value as line 5)	550		100.0
Waste Characteristics:			
15. Toxicity/Persistence/Bioaccumulation	(a)	2000.0	
16. Hazardous Waste Quantity	(a)	10.0	
17. Waste Characteristics	1000		10.0
Targets:			
18. Food Chain Individual	50	20.0	
19. Population			
19a. Level I Concentration	(b)	0.0	
19b. Level II Concentration	(b)	0.0	
19c. Potential Human Food Chain Contamination	(b)	0.3	
19d. Population (lines 19a + 19b + 19c)	(b)	0.3	
20. Targets (lines 18 + 19d)	(b)		20.3
Human Food Chain Threat Score:			
21. Human Food Chain Threat Score [(lines 14x17x20)/82500, subject to max of 100]	100		0.25
Environmental Threat			
Likelihood of Release:			
22. Likelihood of Release (same value as line 5)	550		100.0
Waste Characteristics:			
23. Ecosystem Toxicity/Persistence/Bioaccumulation	(a)	2000.0	
24. Hazardous Waste Quantity	(a)	10.0	
25. Waste Characteristics	1000		10.0

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Targets:			
26. Sensitive Environments			
26a. Level I Concentrations	(b)	0.0	
26b. Level II Concentrations	(b)	0.0	
26c. Potential Contamination	(b)	10.0	
26d. Sensitive Environments (lines 26a + 26b + 26c)	(b)	10.0	
27. Targets (value from line 26d)	(b)		10.0
Environmental Threat Score:			
28. Environmental Threat Score [(lines 22x25x27)/82,500 subject to a max of 60]	60		0.12
Surface Water Overland/Flood Migration Component Score for a Watershed			
29. Watershed Score[c] (lines 13+21+28, subject to a max of 100}	100		0.99
Surface Water Overland/Flood Migration Component Score			
30. Component Score (S_{sw})[c] (highest score from line 29 for all watersheds evaluated)	100		0.99

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] Do not round to nearest integer

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TABLE 4-25 --GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Watershed Evaluated: Rio de la Plata			
Drinking Water Threat			
Likelihood of Release to an Aquifer:			
1. Observed Release	550	0.0	
2. Potential to Release:			
2a. Containment	10	0.0	
2b. Net Precipitation	10	0.0	
2c. Depth to Aquifer	5	0.0	
2d. Travel Time	35	0.0	
2e. Potential to Release [lines 2a(2b + 2c + 2d)]	500	0.0	
3. Likelihood of Release (higher of lines 1 and 2e)	550		0.0
Waste Characteristics:			
4. Toxicity/Mobility	(a)	0.0	
5. Hazardous Waste Quantity	(a)	0.0	
6. Waste Characteristics	100		0.0
Targets:			
7. Nearest Well	(b)	0.0	
8. Population:			
8a. Level I Concentrations	(b)	0.0	
8b. Level II Concentrations	(b)	0.0	
8c. Potential Contamination	(b)	0.0	
8d. Population (lines 8a + 8b + 8c)	(b)	0.0	
9. Resources	5	0.0	
10. Targets (lines 7 + 8d + 9)	(b)		0.0
Drinking Water Threat Score:			
11. Drinking Water Threat Score ([lines 3 x 6 x 10]/82,500, subject to max of 100)	100		0.0
Human Food Chain Threat			
Likelihood of Release:			
12. Likelihood of Release (same value as line 3)	550	0.0	
Waste Characteristics:			
13. Toxicity/Mobility/Persistence/Bioaccumulation	(a)	0.0	
14. Hazardous Waste Quantity	(a)	0.0	
15. Waste Characteristics	1000		0.0
Targets:			
16. Food Chain Individual	50	0.0	
17. Population			
17a. Level I Concentration	(b)	0.0	
17b. Level II Concentration	(b)	0.0	
17c. Potential Human Food Chain Contamination	(b)	0.0	
17d. Population (lines 17a + 17b + 17c)	(b)	0.0	
18. Targets (lines 16 + 17d)	(b)		0.0
Human Food Chain Threat Score:			
19. Human Food Chain Threat Score [(lines 12x15x18)/82,500,suject to max of 100]	100		0.0
Environmental Threat			
Likelihood of Release:			
20. Likelihood of Release (same value as line 3)	550		0.0
Waste Characteristics:			
21. Ecosystem Toxicity/Persistence/Bioaccumulation	(a)	0.0	
22. Hazardous Waste Quantity	(a)	0.0	
23. Waste Characteristics	1000		0.0
Targets:			
24. Sensitive Environments			
24a. Level I Concentrations	(b)	0.0	
24b. Level II Concentrations	(b)	0.0	

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24c. Potential Contamination	(b)	0.0	
24d. Sensitive Environments (lines 24a + 24b + 24c)	(b)	0.0	
25. Targets (value from line 24d)	(b)		0.0
Environmental Threat Score:			
26. Environmental Threat Score [(lines 20x23x25)/82,500 subject to a max of 60]	60		0.0
Ground Water to Surface Water Migration Component Score for a Watershed			
27. Watershed Score[c] (lines 11 + 19 + 28, subject to a max of 100)	100		0.0
28. Component Score (S_{gs})[c] (highest score from line 27 for all watersheds evaluated, subject to a max of 100)	100		0.0

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] Do not round to nearest integer

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TABLE 5-1 --SOIL EXPOSURE PATHWAY SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Likelihood of Exposure:			
1. Likelihood of Exposure	550		550.0
Waste Characteristics:			
2. Toxicity	(a)	100.0	
3. Hazardous Waste Quantity	(a)	10.0	
4. Waste Characteristics	100		6.0
Targets:			
5. Resident Individual	50	0	
6. Resident Population:			
6a. Level I Concentrations	(b)	0	
6b. Level II Concentrations	(b)	0	
6c. Population (lines 6a + 6b)	(b)	0	
7. Workers	15	5.0	
8. Resources	5	0	
9. Terrestrial Sensitive Environments	(c)	0	
10. Targets (lines 5 + 6c + 7 + 8 + 9)	(b)		5.0
Resident Population Threat Score			
11. Resident Population Threat Score (lines 1 x 4 x 10)	(b)		16500.0
Nearby Population Threat			
Likelihood of Exposure:			
12. Attractiveness/Accessibility	100	5.0	
13. Area of Contamination	100	5.0	
14. Likelihood of Exposure	500		5.0
Waste Characteristics:			
15. Toxicity	(a)	100.0	
16. Hazardous Waste Quantity	(a)	10.0	
17. Waste Characteristics	100		6.0
Targets:			
18. Nearby Individual	1	1.0	
19. Population Within 1 Mile	(b)	6.6000000000000005	
20. Targets (lines 18 + 19)	(b)		7.6
Nearby Population Threat Score			
21. Nearby Population Threat (lines 14 x 17 x 20)	(b)		228.0
Soil Exposure Pathway Score:			
22. Pathway Score[d] (S_s), [lines (11+21)/82,500, subject to max of 100]	100		0.2

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[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] No specific maximum value applies to factor. However, pathway score based solely on terrestrial sensitive environments is limited to a maximum of 60
[d] Do not round to nearest integer

TABLE 6-1 --AIR MIGRATION PATHWAY SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Likelihood of Release:			
1. Observed Release	550	0.0	
2. Potential to Release:			
2a. Gas Potential to Release	500	60.0	
2b. Particulate Potential to Release	500	280.0	
2c. Potential to Release (higher of lines 2a and 2b)	500	280.0	
3. Likelihood of Release (higher of lines 1 and 2c)	550		280.0
Waste Characteristics:			
4. Toxicity/Mobility	(a)	100.0	
5. Hazardous Waste Quantity	(a)	10.0	
6. Waste Characteristics	100		6.0
Targets:			
7. Nearest Individual	50	20.0	
8. Population:			
8a. Level I Concentrations	(b)	0.0	
8b. Level II Concentrations	(b)	0.0	
8c. Potential Contamination	(c)	44.6	
8d. Population (lines 8a + 8b + 8c)	(b)	44.6	
9. Resources	5	0.0	
10. Sensitive Environments:			
10a. Actual Contamination	(c)	0.0	
10b. Potential Contamination	(c)	137.5	
10c. Sensitive Environments (lines 10a + 10b)	(c)	137.5	
11. Targets (lines 7 + 8d + 9 + 10c)	(b)		202.1
Air Migration Pathway Score:			
12. Pathway Score (S_a) [(lines 3 x 6 x 11)/82,500][d]	100		4.12

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[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a maximum of 60.
[d] Do not round to nearest integer